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NEWLY EMERGING ENVIRONMENTAL POLICIES WITH A POSSIBLE TRADE IMPACT: A PRELIMINARY DISCUSSION

Report by the UNCTAD secretariat

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Executive summary

1. In accordance with its terms of reference, the Ad Hoc Working Group on Trade, Environment and Development is inter alia requested to "identify and analyse emerging environmental policy instruments with a trade impact, bearing in mind the need for international cooperation towards ensuring transparency and coherence in making environmental and trade policies mutually supportive" (Board conclusions and decisions 415(XL), annex).

2. The purpose of this report is to identify emerging environmental policy instruments and to analyse factors which may result in such instruments having an impact on trade. While some evidence exists regarding the trade effects of specific instruments implemented in recent years, empirical data to support an analysis of the trade effects of emerging environmental policy instruments are, almost inevitably, scarce or non-existent. This report is basically an "issues paper" which provides a conceptual analysis of the possible trade effects of such instruments. The report focuses almost exclusively on the policies of developed countries, since policy measures are emerging principally in these countries. In doing so emphasis is put, however, on the possible trade effects on developing countries.

3. Chapters I and II deal with emerging environmental policy instruments which target products. In order to contribute to a better understanding of the context in which product-specific environmental policy instruments are emerging and to identify such instruments, chapter I focuses on a number of key areas of environmental policy-making, in particular waste management, the control of hazardous substances and chemicals, as well as policies in the areas of energy, climate change, ozone depletion and forestry. The analysis points to the fact that several instruments tend to be used, often simultaneously, in order to achieve specific environmental objectives. Other characteristics of product policies are the relatively frequent use of voluntary and information-based instruments.

4. Chapter II provides a more detailed analysis of the possible trade effects of some of these instruments, focusing inter alia on the producer's responsibility, recycled content requirements, product taxes and border tax adjustments, voluntary industry agreements, information-based instruments and public sector purchasing. Reference is also made to bans on products containing certain substances. The preliminary analysis focuses primarily on the potential impact that such instruments could have on developing countries' exports to developed country markets.

5. The report shows that environmental policies may have negative or positive effects on trade. From a policy perspective a number of considerations arise. From a development policy point of view, it can be observed that in many cases the effects on trade may be similar to or exacerbate those arising from constantly changing conditions in the marketplace, such as changes in technology, consumer preferences, price, and availability of raw materials. Such effects can be seen as part of the relationships between trade-related economic activity and environmental policies and may be addressed in the wider context of development policies. They may also be relevant in the context of technological and financial cooperation and export promotion programmes. From a trade policy perspective, however, two major issues arise: first, whether environmental policies may discriminate against imports and serve protectionist purposes; second, whether the policy instrument chosen is not more trade-restrictive than necessary to fulfil the environmental objective, taking into account the risks non-fulfilment would create. From an environmental policy perspective, the trade-off between environmental policies and existing trade patterns may also involve a consideration of the question as to how an appropriate balance can be established between environmental benefits and possible adverse trade effects. Chapter II proposes some of these key policy questions which the Group may wish to examine.

6. Chapter III analyses the possible trade and competitiveness effects of environmental management systems (EMS), which focus on firms rather than on products and generally include process-related issues. EMS are based on a set of voluntary rules that companies may adhere to in order to be able better to control the environmental impact of their activities, on the basis of self-determined environmental policy and objectives. The preliminary analysis presented in this chapter may assist the Group in examining possible trade and competitiveness effects arising from participation or non-participation in such schemes, in particular for firms in developing countries. An important question is to what extent, and in which markets and sectors, participation may become a de facto condition for specific business operations or a means to improve competitiveness.

7. The preliminary conclusions and recommendations for further work are contained in chapter IV. Although essentially aimed at environmental objectives, emerging environmental policies may at times have intended or unintended adverse effects on trade. Transparency is of key concern to exporters. Some emerging environmental policy instruments may lack provisions regarding notification and possibilities for consultation with foreign producers. Access to information in the case of instruments such as voluntary industry agreements and public procurement guidelines may sometimes be difficult for foreign producers. The relatively strong reliance on voluntary measures may also affect transparency of and accountability for emerging environmental policy instruments.

8. Where emerging environmental policy instruments potentially have negative effects on trade, it is important to analyse how increased transparency and strengthened international cooperation could be established. The WTO Agreement on Technical Barriers to Trade (TBT) may not be well adapted to a number of such instruments. Analysis and debate may assist Governments in considering whether in the case of specific instruments it is useful to explore whether similar rules to those in the TBT Agreement could be extended to cover also these instruments. The report suggests for discussion some principles and proposals which could be taken into account in the design of environmental policy instruments so as to avoid or mitigate adverse trade effects on trading partners, in particular developing countries.

I. SELECTED AREAS OF ENVIRONMENTAL POLICIES

9. This chapter analyses a number of areas of environmental policy-making with a view to identifying emerging product-specific environmental policy instruments. In some of these areas the focus of environmental policy-making is on local environmental issues (e.g. waste management and the control of hazardous substances). In these cases both the policy objectives as well as the instruments vary widely in accordance with national conditions and priorities. In other cases, policies address global environmental problems (e.g. ozone depletion), where environmental objectives tend to be based on a multilateral consensus. However, strategies and policy instruments chosen to achieve even global environmental objectives may differ across countries. In addition, individual countries may anticipate or go beyond multilaterally agreed targets. The principal product-related instruments and their possible trade effects will be elaborated in more detail in chapter II.[2]

A. Waste management

10. The continuous increase in waste generation and the growing shortage of landfills have resulted in a high priority for waste management and recycling. In fact, according to some reports waste management will be one of the fastest growing areas of environmental management policies. The choice between alternative waste disposal methods, minimisation at source, reuse, recycling, incineration and landfill, is an economic, environmental and political judgement, the answer to which differs between countries.[3] Product policies will also depend on the method chosen for waste management. The methods and instruments chosen will have a bearing on the trade effects of such policies.[4]

11. Waste can be reduced at source by redesigning a product in order to use less materials or to increase its durability and reparability in order to require less frequent replacement. Waste reduction at source, however, may be a relatively less important trade issue. In fact, at times pressures to reduce the volume of products and packaging may in practice result in cost savings for exporters.[5]

12. Waste management policies, however, tend to focus on recycling, which may have more significant trade implications. Some countries set recycling targets, expressed as a percentage of waste generated. Non-attainment of the target could trigger the implementation of specific regulatory measures, such as take-back obligations or deposit-refund systems. Targets are relatively frequent in the area of packaging. For example, the German Packaging Ordinance establishes target rates for collection and sorting of different waste materials (i.e. glass, metal, aluminium, cardboard, paper, plastics and compounds), which jointly determine target recycling rates. The EU Packaging and Packaging Waste Directive, which tries to harmonize national packaging laws, also sets recycling targets.[6]

13. While recycling may be a useful waste management policy, an important question is whether there is sufficient demand for recycled materials and what kind of policies are followed to improve the competitiveness of secondary raw materials. It should be noted that industries often prefer virgin to recycled materials, partly because their quality is more consistent or because technical standards and regulations may de facto discriminate against the use of secondary raw materials.

14. Regulations may be used to create a market for recycled products, by requiring, for example, that products contain a minimum amount of recycled materials. Recycled content requirements may at times result in discrimination against foreign producers, in particular those located in areas where recycled materials are scarce or not available, or where the necessary infrastructure for recycling is lacking. This issue will be analysed in more detail in section II.A.3.

15. Another problem with recycling policies is that when more waste is collected than can be recycled, excess waste materials are at times exported at very low prices, which may adversely affect recovery and recycling systems in third countries. For example, the German Packaging Ordinance has temporarily affected recycling activities in other European countries, in particular since the Duales System Deutschland (DSD) collected far more plastic and paper waste than could be recycled.[7]

16. Some steps have been taken to avoid or mitigate such adverse effects between the member States of the European Union. The EU Packaging and Packaging Waste Directive attempts to mitigate the potential for the packaging programme of one member State to significantly affect the environmental efforts of another member State by establishing not only minimum targets (meant to increase efforts by member States who currently have minimal or no packaging programmes), but also maximum targets for recovery and recycling. Member States may go beyond the targets, but only with the approval of the EU Commission, which must examine national packaging programmes to ensure that: (1) the programme has adequate infrastructure requirements to meet the higher recovery and recycling targets; (2) the programme does not distort internal markets of the European Union; and (3) the programme does not affect other member States' ability to comply with the EU Packaging Directive.

B. Hazardous substances and chemicals

17. An important area of environmental policy-making is the control of hazardous substances and chemicals. Growing emphasis is being put in many countries on the identification of environmentally damaging substances, the products in which the substances are used, and the development of product- based controls. Important policy instruments used to control hazardous substances and chemicals are: bans, product standards, registration procedures, mandatory labelling, and the provision of information, among others.

18. In controlling hazardous substances and chemicals, a distinction is often made between "existing" and "new" chemicals. A number of countries have developed, or are developing, lists of priority substances or "sunset chemicals" which are targeted for reduction or banning over a period of time. For example, in the European Union, the Commission establishes priority lists of substances considered harmful for human health or the environment, based on information gathered in the context of the Council Regulation for Existing Chemical Substances (793/93/EEC) as well as priority lists established by member States.[8] In accordance with the Fifth Environmental Action Programme, 200 priority chemicals would be selected for detailed examination over a period of eight years. It has been estimated that around 50 chemicals will be subject to comprehensive risk reduction programmes before the year 2000, e.g. through prohibitions, limit values or voluntary agreements.[9]

19. Of particular concern to developing country exporters are the rapidly evolving standards and regulations, including bans, concerning substances and chemicals contained in products of export interest to them. (This issue is examined in chapter II, section A.1 on bans). To the extent that banned chemicals are produced in the developing countries themselves, such policies may have larger trade and economic effects. Developing countries' concerns also refer to the issue of exports of "sunset" chemicals from developed to developing countries.[10] This issue is relevant in the context of the discussion on the exports of domestically prohibited goods (DPGs), which is being examined by the WTO Committee on Trade and Environment.

C. Energy conservation and climate change policies

20. Policies in this area tend to focus on increased energy efficiency, as well as on the encouragement of a switch to non-fossil fuels aimed at reducing CO_2 emissions.

21. There is increasing concern with reducing energy use in relation to consumer products, in particular with regard to cars and household appliances. Mandatory standards applicable to household appliances are rare, but may become more important. Such standards exist, for example, in the United States[11] and the Netherlands.[12] While they are not different from other product standards, they may require technologies which are at the cutting edge of technological development.

22. Certain regulatory measures are emerging which are different from technical standards and regulations. For example, newly emerging policy instruments at times set requirements for corporations rather than directly for products. Such instruments are emerging in the United States in the areas of fuel efficiency and reduction of emissions from cars. While such instruments provide firms with greater flexibility to achieve environmental objectives, in certain cases they may result in discrimination against imported products. A GATT panel[13] ruled that provisions under the US Corporate Average Fuel Economy (CAFE) law were inconsistent with Article III because of the averaging procedures applied.[14]

23. Discussions on climate change have paid a great deal of attention to the possible competitiveness effects of the proposed introduction of carbon taxes, designed to address the problem of climate change. An important trade policy question is whether or not border tax adjustments should be allowed in relation to carbon taxes. This issue is considered in more detail in section II.B.

24. Energy policies often use information-based instruments. In the context of eco-labelling, energy-related criteria at times refer to the accumulated energy inputs required to manufacture a product over its entire life cycle. As mentioned in report TD/B/WG.6/5, such criteria may result in *de facto* discrimination against foreign producers on account of differences in sources of energy and methods of calculation. It also involves the question of possible equivalencies, based on the comparability of different sources of energy.

D. Ozone depletion

25. Multilaterally agreed targets to control the use of chlorofluorocarbons (CFCs) and other ozone-depleting substances (ODS) have been negotiated in the framework of the Montreal Protocol on Substances that Deplete the Ozone Layer.

26. Policies aimed at phasing out the production and consumption of ODS consist *inter alia* of (i) measures directly aimed at the production and importation of the controlled substances themselves and (ii) policies aimed at products which may contain CFCs.[15] With regard to (i), countries use instruments such as bans, production and import quotas, taxes and tradeable permits in order to implement their international obligations. Other approaches include the development of substitute chemicals and the recovery and recycling of controlled substances, e.g. from existing refrigeration and air-conditioning equipment.[16] With regard to (ii), a number of countries have designed product policies using a range of policy instruments such as product standards, taxes and charges, eco-labelling, voluntary industry agreements[17] and government procurement guidelines. Product policies contribute to a reduction of the *use* of controlled substances and thus complement policies aimed directly at their control. Through such policies, countries have often anticipated or exceeded their international obligations.

27. The shift in consumer preferences away from CFC-containing to CFC-free products, as well as the use of different policy instruments aimed at

accelerating such a shift in demand, are likely to have effects on trade, as are any changing conditions in any market. Product policies may imply that developing countries have to accelerate the shift to CFC-free technologies (independently from their own commitments and the grace periods granted to them under the Montreal Protocol). In other words, product policies provide incentives for an early phase-out of CFCs contained in products exported to developed country markets (making the grace periods less relevant). The Multilateral Fund of the Montreal Protocol provides financial assistance to developing countries to assist them in phasing out CFCs. The trade and competitiveness effects of policies in the area of ozone depletion have been analysed in other reports by the UNCTAD secretariat."

28. From a trade policy point of view, the instrument chosen should be transparent and non-discriminatory and should provide foreign producers with equitable opportunities to adjust to changing market conditions.

E. Forestry policies

29. Forestry policies, aiming to ensure that timber trade originates from sustainably managed forests, initially focused exclusively on tropical forests but they now increasingly cover also temperate and boreal forests. However, many policies still concentrate on tropical timber and may accordingly have trade impacts, especially on developing countries. In the 1980s, the volume of developed countries' imports of tropical logs and sawnwood decreased, while that of temperate logs and sawnwood increased; this was partly due to environmentally related pressures on tropical timber."

30. In 1992, Austria attempted to introduce legislation providing for a double system involving, firstly, mandatory labelling of tropical timber and tropical timber products, and secondly, voluntary labelling with a quality mark of tropical timber that originated from forests that had fulfilled "effective exploitation". This legislation was challenged in GATT on the grounds that labelling provisions did not apply to other like products and that the definition of "effective exploitation" was provided by Austria exclusively. Before an official decision was taken within the GATT, Austria decided to withdraw from the law the mandatory labelling requirement, while keeping the voluntary labelling provisions.

31. There have also been proposals for a differential tax on timber from natural and plantation forests. In addition, some waste management policies, like recycling requirements, have a link to forestry policies in that increased use of recycled fibre reduces the need for logging.

32. International initiatives are likely to focus on eco-labelling or certification of sustainable forest management, covering tropical as well as temperate and boreal timber and based on multilaterally agreed principles."

33. In this context, the third session of the Commission on Sustainable Development (CSD) decided to establish an open-ended ad hoc Intergovernmental Panel on Forests to pursue consensus and formulation of coordinated proposals to promote the management, conservation and sustainable development of all types of forests. Trade and environment relating to forest products and services, including the issue of voluntary labelling and certification and its impact on developing countries, is listed among the issues for priority action by the Panel.

34. An example of a voluntary agreement trying to restrict timber trade to only sustainably produced timber is the Tropical Timber Covenant (CTH) in the Netherlands. In the framework of this covenant, a certification system covering all timber (i.e. not only tropical timber) would be established, if possible in 1995."

II. PRINCIPAL EMERGING INSTRUMENTS WITH POSSIBLE TRADE EFFECTS

35. A preliminary analysis of several areas of environmental policy-making, presented in chapter I, has identified a number of emerging policy instruments (examples are compiled in table 1). This chapter analyses in more detail the possible trade effects of some of those instruments.

36. The possible trade effects of emerging environmental policy instruments depend to a large extent on the importance of current and potential imports of affected products. A preliminary analysis indicates that some of the emerging environmental policy instruments may potentially affect products of export interest to developing countries, such as leather products, footwear, paper, textiles and garments, and certain consumer durables. The secretariat is continuing its work related to the inclusion of such measures in UNCTAD's database on Trade Control Measures (TCM), which will facilitate such analysis in the future. A progress report on the adjustment of the TCM database, which includes some preliminary estimates of trade flows subject to selected environmental measures, will be issued separately (English only).

A. Regulatory instruments

1. Bans

37. Bans on environmental grounds are becoming increasingly frequent due to the widespread public concern over hazardous substances and because it may sometimes be easier to legislate bans than technical standards involving complex risk assessment.

38. Bans on substances which are hazardous to the environment or public health may affect trade in products containing such substances. Such bans are emerging also in sectors of export interest to developing countries, such as textiles, leather and footwear. For example, in Germany products containing pentachlorophenol (PCP) have been banned for several years, and the use of hazardous substances, such as dioxin and formaldehyde, has been restricted, affecting leather exports from developing countries. A decree banning imports of clothes and bed linen manufactured using azo dyes as well as materials containing these chemicals was delayed from 1 January to 1 July 1995 to provide the industry associations concerned (i.e. the textile, clothing, leather, shoe and cosmetic industries) with time for adapting production and supply.[21]

39. Bans of products containing hazardous substances are aimed at protecting the domestic environment and public health in the importing country against the harmful effects of the consumption or disposal of domestically manufactured and imported products. WTO rules allow countries to impose bans as long as such bans apply equally to domestic products.

40. Among the problems reported by UNCTAD's country case studies in complying with environmental product regulations are the costs and difficulties of testing and verification procedures; the perceived lack of scientific data for specific thresholds or limit values; and the uncertainty arising from rapidly changing requirements in overseas markets.[22] It has been noted, however, that science can identify risks and means of avoiding them, but that decisions on acceptable levels of risks are a societal choice.[23] Consequently it may be difficult to harmonize standards across countries.

Table 1

Examples of emerging environmental policy instruments applied in selected areas of environmental policy-making

Instruments	Selected areas of environmental policy-making				
	Waste management and recycling	Hazardous substances and chemicals	Energy efficiency and climate change	CFC policies	Forestry policies
Bans	Non-reusable beverage containers	Products containing hazardous substances, for example in leather products, footwear, textiles and garments		Aerosol sprays containing CFCs in Norway Non-essential CFC-containing consumer products in the USA	Raw log exports, e.g. Malaysia
Take-back obligations	German Packaging Ordinance	Waste oil, batteries		Industry agreements to take back and recover CFCs from refrigera-tors in Germany, the Netherlands	
Recycled content requirements	Minimum recycled fibre content in newsprint				
Product taxes and charges	Charges on packaging	Charges on batteries in Canada, Denmark, Portugal, and Sweden	Carbon taxes in Denmark, Finland, Netherlands and Sweden	Charges on ODS in Australia, Denmark and United States	
Information based instruments	Eco-labels for recyclable products and products containing recycled materials	Heavy metal content in batteries	Eco-labels for energy efficient products	Eco-labels for CFC-free products	Certifi-cates for sustainable forest management
Voluntary industry agreements	Packaging covenant (Netherl.) Framework Agreement on production of recyclable cars in France	Reduce, eliminate the use of certain batteries		Phase-out refrigera-tors and freezers containing CFCs	Tropical timber covenant (the Nether-lands)
Public procurement	Recycled paper		Energy-efficient cars	CFC-free products	Bans on tropical timber (munici-palities)

41. While international trade rules allow countries to ban certain substances in accordance with their decisions about acceptable risk levels, it may be the case that bans which are based on the actual use of priority chemicals in processes, rather than just on the release of these chemicals into the environment of the importing country, while significantly increasing costs to domestic and/or foreign producers, may not always result in a commensurate reduction of environmental risk. It may be possible to consult developing country producers in the design and implementation of schedules for the reduction or banning over a period of time of chemicals which are used in sectors of key export interest to developing countries, such as leather and textiles.

42. Bans on products containing hazardous substances raise a number of issues, among which are the following: What is an appropriate use of scientific information and risk assessment? How can information as well as technical and financial assistance be provided to producers in developing countries, in particular in LDCs, to assist them in producing or acquiring environment-friendly substitutes? How can appropriate transitional provisions be established to allow foreign producers to adjust to new requirements?

2. Take-back obligations

43. Take-back obligations are aimed at encouraging reuse and recycling, and the costs involved may induce more environmentally conscious product development. Take-back obligations involve an extended producer responsibility for the product, in particular for its reclaiming, recycling and final disposal. A certain amount of attention has been given to the possible trade effects of the German Federal Ordinance Concerning Avoidance of Packaging Waste.[20]

44. In France, Germany and Italy, take-back obligations also exist with regard to waste oil. Take-back obligations concerning other products, such as cars, are under consideration in some European countries. Legislation allowing for the introduction of take-back obligations has been adopted in the Netherlands and will be enforced as part of specific waste reduction schemes, e.g. for batteries, cans, and consumer electronics. The introduction of an obligation to recover household electrical appliances is under consideration in Germany.[21] It is sometimes mentioned, however, that the applicability of take-back obligations to "complex" products, which consist of different components and materials, may be limited.[22]

45. Take-back obligations apply to both domestically produced and imported products and may have impacts on international trade. Obviously, shipping imported products back to the country of origin could involve high costs and would generally not be desirable from an environmental point of view. In practice, the importer rather than the foreign producer is held responsible for compliance with the law, and service companies can be used to take care of recycling.

46. Trade effects may arise when importers or foreign producers face administrative and procedural problems in discharging their legal responsibilities or when the associated costs have significant effects on the competitiveness of imported products. In addition, take-back obligations could affect the competitiveness of specific materials which in many aspects are "environment-friendly" but difficult to recycle in the importing country. This could be the case of materials which are not commonly used in the importing country.[23]

47. It may be useful to analyse issues such as the following: Could take-back obligations result in <u>de facto</u> discrimination against specific materials, for example those for which no recycling facilities exist in the importing country? Could <u>de minimis</u> provisions be established to exempt certain materials which are predominantly imported in small quantities, in particular from developing

countries? Which products of export interest to developing countries are likely to be affected?

3. Recycled content requirements

48. The principal purpose of recycled content requirements is to create a market for recycled materials when market forces alone do not create sufficient demand for such materials. When analysing the potential trade effects of such instruments, it is important not to confuse recycled content requirements with recycling requirements.

49. Mandatory recycled content requirements already exist in certain areas in the United States, but not at the national level. By the end of 1992, 12 states had laws requiring prescribed minimum percentages of recycled fibre content in newsprint ranging up to 50 per cent. In 13 other states, newspaper publishers had voluntarily agreed to use recycled newsprint.[29] In the European Union, Council Directive 94/62/EC stipulates that, as part of standardization efforts, the Commission is to promote the preparation of European standards relating inter alia to "criteria for the minimum content of recycled material in packaging for appropriate types of packaging" (Article 10). In Denmark, a law has been adopted allowing the Minister of the Environment to lay down rules requiring that specified materials and products have a minimum of recycled content. At the time of writing, no such rules had been implemented.

50. Criteria related to recycled content requirements are often applied in the context of eco-labelling. Government procurement guidelines may also favour products with a minimum content of recycled materials. An eco-tax on paper containing less than a minimum content of recycled fibres has been under consideration in Belgium.[30]

51. The application of recycled content requirements to imported products may often be difficult to justify from an environmental point of view, at least from the perspective of the exporting country. The local supply of waste materials in areas with a low level of economic activity or population density may be too small to justify recycling from both an environmental and economic point of view. Canada's newsprint production, for example, relies heavily on export markets and Canada does not possess a sufficient domestic supply of recoverable old newspaper to meet mandatory recycled content standards in the United States.[31] Similarly, since the bulk of Finnish paper production is destined for export markets, there is relatively little waste paper available domestically for recycling, despite the high waste paper collection rates in Finland.

52. Brazilian producers of pulp and paper have maintained that recycled content criteria in the context of an EU eco-label on tissue products could reduce the demand for pulp and threaten the competitiveness of Brazilian paper mills. The Brazilian forest industry derives part of its comparative advantage from plantation forests, and Brazilian producers have made significant investments in the sustainable management of their forest base.[32] In addition, de-inking facilities needed for recycling waste paper require considerable capital investments and may not be available in developing countries.

53. In order to comply with the requirements, producers might need to import materials for recycling. The resulting negative environmental impacts (e.g. from increased transportation) may therefore outweigh the environmental benefits derived from recycling. At discussions in the Trade and Development Board, it has been suggested by some delegations that foreign producers might be requested to comply with recycled content regulations only if these regulations referred to recyclable materials which were readily available in the producing country."

54. Regulations which require that products contain a minimum proportion of recycled materials may be considered as design rather than performance

standards." It is to be noted that the TBT Agreement encourages countries to use performance rather than design standards.

55. Recycled content requirements raise a number of issues, among which are the following: Under which circumstances could recycled content requirements be applied to imported products in a non-discriminatory way? How should recycled content requirements be considered in terms of the WTO Agreement on TBT? Can they be regarded as extraterritorial imposition of environmental policies?

B. Product taxes and charges

56. Product taxes and charges can be based on some characteristics of the product (e.g. on the sulphur content in mineral oil) or on the product itself (e.g. mineral oil). Product charges may be imposed with two aims:

(a) To raise revenue;
(b) To discourage the production and consumption of products on which the tax is levied.

57. Taxes or charges may be successful in discouraging consumption if they make the product less competitive vis-à-vis substitutes. On the other hand, there may be a positive effect on production of and international trade in environmentally preferable substitutes. To date, however, environmental taxes have not generally been levied at a level sufficiently high to induce significant changes in consumption patterns and have accordingly been used in conjunction with regulatory instruments.

58. An instrument used in a number of countries is tax differentiation, i.e. a lower tax rate for "environment-friendly" products, such as unleaded (versus leaded) petrol, or cars equipped with catalytic converters. Normally the sole purpose of tax differentiation is the incentive effect, since tax differentiation is not aimed at raising revenues. Tax differentiation has had significant effects on the market shares of unleaded petrol, which have risen considerably in many countries.

59. In some countries, "administrative" charges are imposed to help finance the activities of agencies in charge of environmental control, e.g. licensing or monitoring. An example is the charge levied on products listed in the "Chemical Products Register" in Sweden to cover part of the costs of the Chemicals Inspectorate. Since their levels are again quite low, administrative charges have so far had little or no impact on purchasing decisions.

60. Since taxes can affect the competitiveness of domestically produced goods relative to products from other countries, the WTO allows border tax adjustment. Product taxes can be levied on imported products (at the same rate as domestic like products), whereas an exemption or remission of taxes can be granted for products to be exported. Key questions that arise in the context of the trade and environment debate relate to (i) the treatment of "like" and "competing" products; and (ii) the extent to which border adjustments should be allowed with regard to "prior-stage" taxes, such as taxes on inputs.

61. With regard to (i), under the WTO rules (first paragraph of Article III:2), countries cannot impose a higher tax on an imported product than on a domestic like product. However, different tax rates may be levied on products which are not "like products". From an environmental point of view it may be desirable to differentiate products on the basis of their environmental attributes. From a trade point of view, the question is whether such differentiation can serve protectionist purposes. Some cases have been brought to the GATT dispute settlement mechanism. A recent GATT Panel ruled that cars could be differentiated (i.e. not considered as "like products") on the basis of their fuel efficiency. Thus, a tax on fuel-inefficient cars was considered consistent with the WTO rules."

62. In principle, the fact that product taxes can affect competitiveness between domestic and imported products could be used for protectionist purposes: a higher tax could intentionally be imposed on products which are principally imported than on products which are principally produced domestically. To prevent this, the WTO provides that taxes and charges should not be applied to imported or domestic products so as to afford protection to domestic production (second paragraph of Article III:2). Thus, if the taxed (imported) and competing (domestic) products are not similarly taxed, a product tax could, in principle, be considered inconsistent with the WTO. However, in evaluating whether or not a product tax is protectionist, GATT panels have not considered its effects on trade flows, but have relied on the concept that "competitive opportunities" should not be tilted against imported products."

63. With regard to (ii), the WTO rules on border tax adjustments allow the adjustment of a specific tax on an imported or exported product if the taxed input is physically incorporated in the product in question. A common interpretation of the WTO rules is that taxes on non-incorporated inputs as well as taxes on production processes are generally not eligible for adjustment.

64. Border tax adjustment is an important issue which is being discussed at the WTO Committee on Trade and Environment. From an environmental point of view, some have expressed concern that existing rules on border tax adjustments may induce Governments to postpone the introduction of environmental taxes. The fact that WTO rules allow adjustments on product taxes and are prohibitive or at best ambiguous with respect to taxes on non-physically-incorporated inputs and production processes may create a bias in favour of product taxes on account of competitiveness concerns, even though it could be more environmentally effective to levy the tax on the input or the production process rather than on the product. On the other hand, since taxes on processes are presumably aimed at discouraging the processes in question, border tax adjustments would weaken the environmental objectives. From a trade point of view, however, a key concern is that adjustments in respect of production processes could be used for protectionist purposes, among other reasons because of the difficulties of calculating the appropriate levels of adjustment and of verifying inputs, in particular non-incorporated inputs."

65. Carbon taxes, which are levied over and above existing excise taxes on fossil fuels, are currently applied in Denmark, Finland, the Netherlands and Norway. Carbon taxes are normally applied as environmental product taxes on the carbon content of fuels. If the fuels themselves are exported or imported, then indirect taxes levied on them can normally be adjusted, as described above. The situation is different, however, when the fuels are instead used as an input into a final product. Would the final product be eligible for border tax adjustment? Fuels on which the carbon taxes are levied are not physically incorporated into the product. As mentioned above, a common interpretation of WTO rules is that non-incorporated inputs are in general not eligible for border tax adjustments. While the WTO rules may be somewhat ambiguous if the inputs consist of energy, fuels and oils used in the production process," a general interpretation is that the final product being exported or imported would not be eligible for adjustment in respect of carbon taxes.

66. From the above it follows that, except for the case of tax differentiation, in general product taxes have been levied principally for revenue purposes. To the extent that tax revenues are used for the funding of environmental programmes, they may have significant environmental benefits.

67. Product taxes and border tax adjustments raise a number of issues. From a trade policy perspective an important issue is: Under what circumstances can border tax adjustments on processes and non-physically-incorporated inputs serve protectionist purposes? From an environmental policy point of view, some of the important issues are: Do existing rules on border tax adjustments create a bias

in favour of product rather than process taxes, and would this reduce the effectiveness of environmental policies? What is the effectiveness of product taxes in developing countries, considering both incentive and revenue effects?

C. Information-based instruments

68. Producers and consumers need information for their efforts to reduce environmental impacts. The need to provide such information by itself may increase awareness and may also induce producers to improve the environmental quality of a product for reasons of competitiveness.

69. The principal information-based instruments are compulsory and voluntary labelling. The Working Group has already initiated its deliberations on possible trade, environment and development effects of eco-labelling, aided by several reports prepared by the secretariat." Apart from eco-labelling, research is being undertaken, for example in the Netherlands, on the feasibility of providing information to purchasers throughout life-cycles (linking raw materials suppliers to end-product manufacturers) or in the form of product dossiers. The Government expects the business sector to take initiatives in this area through a process of self-regulation. Some consideration is being given to the feasibility of making product profiles mandatory if the private sector does not respond.

70. The Swedish Environmental Protection Agency, in cooperation with the Swedish Federation for Industries and some companies, has launched a project on Environmental Product Profile (EPP). The aim of EPP is to provide information about a product's environmental performance during the whole life-cycle without including an evaluation or threshold values. EPPs have been developed for four product categories: refrigerators, furniture, tissue paper and detergents.

71. In the context of ISO, environmental information on a product in the form of a bar graph of various indices, without any judgement about their relative importance, is known as a Type III label. By avoiding the weighting of different environmental attributes, such schemes leave it up to the consumer to decide which products are more "environment-friendly".

72. Most information-based instruments differ from Type-I eco-labelling" in that they neither set targets nor weight the environmental objectives, thus avoiding the problems raised in making value judgements. However, in some cases, e.g. in the case of a tropical timber label, merely providing information could discriminate against imports, as consumers associate tropical timber with deforestation.

73. While providing information is useful from an environment point of view and may even promote trade, it may at times be difficult or expensive to provide information on specific environmental impacts during the life-cycle of a product, in particular for firms in developing countries. Research on environmental impacts may be needed and certification systems may have to be set up. Additional requirements in terms of infrastructure may be expensive. Incurring such costs may be of little environmental benefit when the information requirements refer to specific process-related environmental impacts which are of relatively minor concern in the context of local environmental conditions and priorities in the country of production.

74. Information-based instruments involve a number of issues, for example: What are the advantages and disadvantages -in terms of objectivity and non-discrimination - of different types of information-based instruments, e.g. eco-labels versus EPPs (or, in the ISO context: Type-I versus Type-III eco-labels)? What are the problems of specific information requirements, e.g. in terms of infrastructure, for producers in developing countries?

D. Voluntary industry agreements

75. Voluntary industry agreements are formal agreements concluded between the Government and an economic sector, whereby the latter commits itself to achieving a specified environmental policy objective.[41] Industry retains an important degree of flexibility in achieving the objective. Sometimes voluntary industry agreements can be put into place relatively quickly, avoiding legislative and bureaucratic delays, and they can serve as an interim measure until more comprehensive measures are taken.[42]

76. A number of voluntary agreements have reportedly been successful in achieving their environmental objectives, for example a number of product agreements dealing with batteries, CFCs, mercury containing products, packaging, detergents, wood preservation, etc., in the Netherlands. Voluntary agreements have also been an attractive element of ODS phase-out strategies, e.g. in Mexico and Thailand.[43]

77. Voluntary agreements, however, may also have certain disadvantages. First, if there is no accompanying legislation, it is not always clear to what extent a particular agreement imposes a binding obligation on its participants and thus to what extent it can be enforced.[44] Second, the targets of the agreements may at times be vague in terms of actual environmental performance.[45] Third, transparency may be lacking from the agreements. Fourth, at times, negotiating a voluntary industry agreement may be as complex and time-consuming as putting regulatory measures in place.[46]

78. While recognizing that some voluntary industry agreements have been very effective in achieving environmental purposes, it has also been argued that sometimes protectionist interests could also play a role.[47] Parties to an agreement may try to create barriers to entry to new firms. Once domestic companies have achieved the domestically agreed goals of the voluntary agreement, legislation may be introduced to enforce the goals, affecting also imported products.

79. Among the relevant issues in the field of voluntary industry agreements, the following could be analysed: How can transparency, including notification, be enhanced? What is the relationship with the WTO, in particular given the different degrees of government involvement? To what extent can voluntary industry agreements serve as a basis for government regulation and would this be applicable to developing countries?

E. Public sector purchasing policies

80. In a number of countries, some preference is given to "environment-friendly" products in the context of government purchasing programmes. As will be indicated in the next chapter, environmental factors may also play a role in tendering and contract award procedures. In most countries, reference to environmental factors is made only in the context of general information being made available to government purchasing programmes, rather than through explicit references to specific "environment-friendly" products.

81. In some cases, however, guidelines on specific products could be issued. For example, in the United States, the President has issued executive orders directing the Government to purchase more energy-efficient cars and computers and to buy products that use fewer ozone-depleting chemicals.[48] In some other countries, environmental factors play a more explicit and important role in the procurement by lower government entities such as municipalities, either by explicitly favouring environment-friendly products or through boycotts. One study published in 1993 reports that 200 city councils in Germany had banned the use of tropical timber.[49] Further, in about 150 municipalities in the Netherlands, which cover about half the population, the forestry policy is

directed towards the exclusive use of tropical timber which comes from sustainable sources.

82. Public procurement practices could have effects on producers from developing countries if products of significant export interest to them were to be affected. For example, boycotts on tropical timber would lead to trade displacements and may require expensive counter campaigns. Further, developing country producers and Governments might have difficulties in obtaining timely information from subnational entities in order to take advantage of trading opportunities or to present arguments against boycotts.

83. International disciplines on public procurement generally include national treatment, non-discrimination and transparency. In the light of the above, an important question is to what extent transparency and international disciplines cover both national and subnational purchasing practices. It should be noted, however, that only a few developing countries are members of the Plurilateral Agreement on Government Procurement in the WTO.

III. ENVIRONMENTAL MANAGEMENT SYSTEMS

84. Apart from the product-specific environmental policies analysed in chapters I and II, there are new initiatives relating to voluntary systems to help improve the environmental management of firms. These systems generally include process-related issues. Governments may encourage such developments, for example by establishing legal provisions and providing infrastructure. While essentially aimed at environmental purposes and despite being voluntary, environmental management systems (EMS) may have both positive and negative effects on trade and competitiveness. On the one hand, participation in ISO 14001 provides a basis for the certification of a firm's EMS, which may give it greater credibility with clients, financial institutions, insurance companies, regulators and consumers. On the other hand, depending on market characteristics and other factors, non-participation may have adverse effects on a firm's competitiveness. This may be the case, for example, for firms in developing countries, to the extent that Governments may find it difficult to provide the required infrastructure for EMS and firms may have problems in participating in such schemes. Moreover, whether or not firms in developing countries participate themselves in EMS, the growing use of EMS in developed country markets may intensify a trend according to which firms in developed countries impose environment-related requirements on their suppliers, including supplies from developing countries. In addition, the relationship of EMS with international trading rules could be discussed. The following sections provide a preliminary analysis of these issues.

A. Introduction

85. EMS are based on a set of voluntary rules that companies may adhere to in order to be able to better control the environmental impact of their activities on the basis of self-determined environmental policy and objectives. This chapter will analyse the possible trade and competitiveness effects of the use of EMS by examining two such schemes: the international ISO 14001 standard and the regional EU Eco-management and Audit Scheme (EMAS).

86. Both the ISO 14001 standard and the EMAS are meant to be flexible in that the schemes do not themselves explicitly specify any environmental criteria (product, process or ambient standards) that need to be met to qualify for the schemes. There are detailed requirements concerning environmental policies, programmes, management systems and environmental auditing, but the specific environmental criteria to be fulfilled depend on the regulatory requirements relevant to the site or country and on the company environmental policy and targets.

87. To avoid the proliferation of different regional and national EMS - like the EMAS, or the BS 7750 implemented in the United Kingdom - the ISO has prepared an international standard on EMS through the ISO 14000 series.[90] The standard (ISO 14001) has recently been finalized and is expected to be published as an international standard by mid-1996.

88. As the EMAS was established by a Regulation, it is mandatory for all EU member States to set up the infrastructure for the scheme in their jurisdictions. Nevertheless, the scheme is essentially non-compulsory in that the participation of companies in the EMAS remains voluntary.[91]

89. In order to ensure consistency and to prevent duplication of efforts by companies, the EMAS will recognise certain national, European and international standards for environmental management systems.[92] Companies that already comply with such standards are considered also to comply with the EMAS for the corresponding parts. Thus, the use of ISO 14001 or other environmental management standards is not required but is welcomed in EMAS. Decisions on which standards exactly will be recognised by the EMAS are yet to be made, but it is

likely that ISO 14001 will be accepted as the implementing standard for the EMAS."

B. Coverage and requirements

90. The coverage of ISO 14001 and the EMAS differs fundamentally in that whereas ISO 14001 is at least in theory available to any company in any country, participation in the EMAS is limited only to companies operating sites within the European Union. Further, in the initial phase the EMAS is applied only to companies in the industrial sector."

91. Several requirements are common for both the ISO 14001 standard and the EMAS. The main requirement is for firms to establish and maintain an environmental management system based on self-determined environmental policy and goals. Furthermore, under the EMAS, firms have to carry out periodic audits on environmental performance, and under ISO 14001, EMS audits to determine whether the EMS conforms to the criteria set by the organisation.

92. Compliance with all applicable environmental regulations is a minimum requirement under both schemes. However, both schemes also clearly expect participating companies to go beyond the levels of environmental requirements established by law, committing themselves to continuous improvement. While in the case of the EMAS continuous improvement refers to environmental performance, ISO 14001 expects companies to commit themselves to a continual improvement of the EMS itself. Both schemes also include some considerations of the environmental performance of suppliers."

93. The EMAS is distinguished from ISO 14001 by its third element (besides environmental management and environmental auditing), namely the fundamental requirement to provide information on the company's environmental performance to the public. Whereas under ISO 14001 only the company environmental policy is to be made available to the public, under the EMAS verified environmental performance results have to be publicised, giving an opportunity to the public to compare the environmental record of companies.

94. While the ISO 14001 standard allows self-declaration, third party verification is an essential part of the EMAS. Environmental auditing may be conducted by in-house auditing teams, but they must be externally accredited and sufficiently independent of the audited activities. The environmental statement produced based on audit findings must always be verified by an external accredited environmental verifier before the registration of a company to the scheme can be accepted.

95. In the long term, there may be pressures to make the EMAS mandatory within the European Union. The original draft proposed mandatory eco-auditing for 58 categories of industrial activity. In the negotiation process, the scope of the scheme was enlarged to cover also environmental management, and participation was left voluntary after heavy industry lobbying. According to the European Parliament, the voluntary basis of the scheme should be maintained for 10 years, after which at least minimum rules should become obligatory." In any case, after not more than five years of operation, the EMAS will be revised in the light of the experience gained.

C. Potential impact on markets

96. The market impact of EMS is expected to occur not so much in relation to end consumers (except by improving the public image of participating companies), but mainly in commercial transactions between companies. Unlike in eco-labelling schemes, there will be no product labels indicating the participation of the producer in an EMS scheme.

97. Some businesses may face pressures to register with EMS schemes from other companies. Government bodies may demand compliance as a condition for tenders.

The implementation of a sound EMS by a firm may imply that, in case of detected non-compliance with environmental regulations, the Government will take less severe enforcement action and the resulting penalties will be lower. Banks and insurance companies may request EMS registration, and insurance premiums, credit conditions and treatment of liability may become differentiated between registered companies and others. Moreover, registered companies are expected to benefit from EMS implementation by having a system which allows them to deal with environmental requirements in a systematic way and by avoiding the answering of detailed environmental questionnaires by firms they wish to do business with, as the ISO 14001 or EMAS registration is expected to suffice as proof that the company is addressing its environmental concerns adequately.

98. The closest analogue to environmental management systems can perhaps be found in the ISO 9000 series on quality control. ISO 9000 certificates have in a short time had a significant effect in certain sectors and certain countries, especially on the European market, where 76 per cent of ISO 9000 certificates have been issued.[17] However, the impact of ISO 14001 relative to that of ISO 9000 may be reduced by the fact that, whereas quality concerns are of direct importance to all companies, environmental concerns may be of relevance mainly for industries in certain environmentally sensitive sectors.

D. Potential effects on developing country exports

99. Depending on the status that the ISO 14001 and the EMAS gain in conducting business - through binding requirements, e.g. for public procurement, or through market preferences - positive trade effects may arise for developing country producers from registration with an EMS scheme. However, at the same time, companies that are not registered may find their market access or competitiveness affected. According to the preliminary results of a UNIDO survey among industry associations and standardization organizations in developing countries,[18] the majority of interviewed organizations fear that non-compliance with ISO 14001 would affect their competitiveness. Since both positive and negative trade impacts are possible, it is interesting to analyse whether developing country producers may face special difficulties in obtaining EMS registration, and how such difficulties could be mitigated.

100. In the case of ISO 9000, several problems have been identified as affecting in particular developing country firms. Firstly, obtaining and maintaining certification is expensive. According to some estimates, registration fees alone may be in the US$ 10,000-20,000 range. In most cases companies have to rely on the services of expensive consultancy firms to set up quality management systems. Secondly, certain characteristics of developing country firms, such as the limited attention traditionally devoted to procedure, documentation and records, represent an obstacle to ISO 9000 implementation.

101. Firms in developing countries may face similar problems with the implementation of EMS. According to the preliminary results of the UNIDO survey, the costs involved in participating in the system, the lack of full understanding of EMS by both the company management and the Government, and the need to comply with domestic environmental legislation[19] are the main elements which would make developing country participation in the system rather difficult.

102. Even though the EMS are flexible in allowing each firm to set up its own environmental targets and goals, companies are expected to identify significant environmental aspects associated with their activities and address them. Already, compliance with national environmental legislation may at times be difficult for producers in developing countries. This, combined with the commitment to comply with the stated targets and goals, may imply the need to invest in new technology. In any case, costs are likely to arise in connection with the analysis, documentation, training, monitoring and certifying requirements. Finally, having been less exposed to environmental requirements,

small firms and firms in developing countries may not have the environmental knowledge that is necessary for successfully participating in the scheme.

103. Although its acceptability by the clients remains to be seen, self-certification is allowed under the ISO 14001 scheme. However, without appropriate support and training, many developing country firms may not be able to maintain an internal auditing team that meets the specified requirements. The other option, third-party certification, may represent a major obstacle to developing country participation in the ISO 14001 standard due to a lack of credible domestic certification and accreditation bodies and the costs associated with using such international bodies.

104. With regard to the EMAS, as it is site-based and open to participation only for companies in the industrial sector operating in the European Union, developing country exporters who do not operate an industrial site within the EU cannot register with the scheme.

105. Besides the direct impacts of whether developing country producers themselves are registered to an EMS scheme, indirect trade impacts can also arise through the participation of developed country companies in the schemes. This is because the life-cycle approach that considers the environmental performance of suppliers and contractors may in some cases lead to input substitution or placing special requirements on developing country producers. Through this "trickle down" effect, even companies not participating in the schemes may have to consider at least certain EMS requirements." The "trickle down" effect may be magnified by the fact that EMS schemes are company-based: thus a supplier may have to comply with different requirements for each company to whom it sells products.

106. The experience in the United Kingdom with the implementation of the BS 7750 EMS standard has been that certified firms have investigated the environmental performance of their suppliers. The experience with the ISO 9000 standard has been similar. Even though ISO 9000 does not include a registration requirement for suppliers, many companies have been requested to comply with the standard in order to stay on the supplier list. In the case of EMS, if the "trickle down" effect leads to a situation where the supplier is asked to comply with environmental criteria that are of secondary importance in the supplier country, resources may be shifted from the primary environmental problems, and environmental benefits in the supplier country may remain limited.

107. Small and medium-sized enterprises (SMEs) may face more problems than large firms in establishing EMS. A number of investments which would be required to fulfil the commitments to comply with applicable legislation, to reduce pollution, and to continuously improve environmental performance may not be economical on a small scale. Lack of information, lack of human resources, fear of additional bureaucracy and the costs involved in setting up the system and in certifying may be the major bottlenecks for SMEs. Under the EMAS, the particular difficulties that SMEs may encounter have been recognised. Thus, SMEs in the EU are to benefit from special assistance to facilitate their participation in the EMAS. Such assistance may consist of information, training, and technical support, but not of financial support. SMEs may also benefit from a simplified system of verification and inspection, as well as an exemption from having to produce annual environmental statements. In the case of ISO 14001, some preliminary inquiries have been made on SMEs and on their capacity to implement EMS. However, the preliminary conclusion was that no separate rules were needed for SMEs, keeping in mind their specific problems. Nevertheless, this issue will be considered again, if after the publication of the standard SMEs are seen to face particular difficulties in implementing EMS.

108. The Working Group may wish to examine to what extent and in which markets and sectors environmental management systems (EMS) may become a condition for specific business operations; whether the requirements of EMS may pose problems

for developing country producers; what particular impacts such schemes may have on SMEs in developing countries; how potential adverse trade effects could be minimised and benefits maximised; and what the relationship is between EMS and international trade rules, especially since EMS generally include process-related standards.

IV. PRELIMINARY CONCLUSIONS AND SUGGESTIONS FOR FUTURE WORK

109. Product-oriented environmental policies use a variety of instruments, ranging from direct government intervention through traditional command and control measures (e.g. standards and regulations) to indirect intervention (e.g. communication and information instruments). Emerging policies increasingly aim at preventive action and search for cost-effective approaches to achieving environmental objectives. In some cases they also aim at stimulating innovation.

110. In many cases, a combination of several instruments is used to achieve a certain environmental policy objective, which makes it difficult to analyse the effectiveness of individual instruments. In addition, the effectiveness of individual instruments may vary from case to case, depending, for example, on the environmental problem and the characteristics of the target groups (such as the number of polluters or the size of firms). It should also be recognized that in developing countries, specific policy instruments could be less effective, e.g. due to the lack of environmental infrastructure and markets for environment-friendly products.

111. In the case of policies which address local environmental problems, both the objectives and instruments vary widely in accordance with the local conditions and priorities of each country. In the case of policies which address global environmental problems, objectives tend to be based on a multilateral consensus, but strategies and instruments to achieve those objectives may also differ across countries. In both cases the instruments chosen should be sensitive to trade and development concerns.

112. The analysis in this report and empirical evidence from UNCTAD's country case studies show that lack of accurate and timely information on emerging environmental policy instruments may have unintended adverse effects on developing countries. In the area of waste management, for example, packaging requirements have created uncertainty, in particular with regard to the type of packaging materials that will be acceptable to importers. Exporters have at times incurred costs, delayed decisions, or shifted to other materials because of lack of sufficient information regarding requirements in importing countries.

113. In addition, there is some uncertainty surrounding the implementation of newly emerging environmental policies. Developing countries are uncertain as to whether the industrial sector in developed countries will adopt these policies on a wide scale and as to whether these policies will restrict or promote their exports.

114. Not all instruments or environmental policies are likely to have significant effects on trade. Of the instruments analysed in the preceding sections, those that affect process and production methods (PPMs) and products of significant export interest to developing countries are more likely to affect trade. As life-cycle approaches (LCA) are an important feature of emerging product-related environmental policies, PPMs may be an important factor.[41] For example, instruments such as recycling, carbon taxes, and government procurement need further analysis, particularly as to how they affect developing countries.

115. Lack of transparency may create significant problems for exporters, in particular since some emerging environmental policy instruments do not have provisions regarding notification and established mechanisms allowing foreign producers to comment. In addition, access to information on voluntary industry agreements and public procurement guidelines may be difficult, in particular since such information would need to be obtained from dispersed sources such as industrial sectors or municipalities. The relatively strong reliance on voluntary measures may raise questions as to accountability to international trade rules. While voluntary product standards are indeed covered by the WTO Agreement on Technical Barriers to Trade (TBT), in some aspects they may be subject to less rigorous rules and procedures than are mandatory regulations.[42]

116. From a trade policy view, an important question is the relationship between the emerging instruments and the TBT. Another question is the interpretation of WTO Article III on national treatment and the issues of "competitive opportunities" and "like products".

117. Environmentally related product policies often focus on product attributes which are of relatively little importance in terms of the product itself, but which may be significant from an environmental point of view. For example, Governments may wish to set standards for energy efficiency, recyclability or recycled content of products, or use taxes to differentiate products on the basis of such attributes. WTO rules generally permit Governments to establish such regulations or to apply border tax adjustments (by applying taxes to both domestically produced and imported products) if such instruments are based on product characteristics, i.e. are aimed to address consumption externalities. In addition, product standards may incorporate process requirements when based on the life-cycle analysis. The TBT Agreement would not allow countries to apply domestic non-product-related process standards to imported products. Mandatory standards on recyclability or energy efficiency of products are generally consistent with the WTO rules, whereas the TBT Agreement could be interpreted as discouraging recycled content standards. This report has also shown that regulatory measures are emerging which are different from traditional product standards and regulations (which lay down product characteristics with which each product has to comply), such as take-back obligations, recycling quotas and average standards for corporations rather than for products.

118. The discussions of the Group may help Governments to identify which of these newly emerging environmental policy instruments could be subject to further requirements on transparency, including notification provisions under the TBT. Analysis and debate may assist Governments in considering whether in the case of specific instruments for which the TBT Agreement may not be well adapted it is useful to explore whether rules similar to those in the TBT Agreement could be extended to cover these instruments as well.

119. The Group may wish to discuss certain principles and proposals which could be taken into account in the design and implementation of environmental policies and instruments so as to avoid or mitigate adverse trade effects, in particular on developing countries. Such discussions could focus on the following issues:

(a) How can appropriate transparency of emerging environmental policy instruments be guaranteed to ensure non-discrimination against foreign producers?

(b) How can appropriate transitional provisions be established to allow producers to adjust to emerging environmental requirements?

(c) Can rules similar to those in the TBT Agreement be extended to cover emerging environmental policy instruments as well?

(d) What steps could be taken to ensure that environmental policy instruments are no more trade-restrictive than necessary to achieve their environmental objectives and that they are based on objective criteria?

(e) How can an appropriate balance be established between environmental benefits and adverse trade effects?

(f) How can technical and financial assistance be provided to developing country producers to assist them in adjusting to new environmental requirements?

120. This report has also presented a preliminary analysis of environmental management systems (EMS). Further conceptual and empirical studies may be

helpful to determine the possible trade and competitiveness effects arising from participation or non-participation of developing country firms in such schemes, in particular in certain environmentally sensitive sectors. It may also be useful to examine the relationship between EMS and international trading rules.

121. EMS may help to improve the environmental performance of firms and to assure compliance with basic environmental standards based on different, flexible criteria in different countries. However, to make sure that discriminatory effects do not arise in the implementation of EMS, several points could be taken into account:

(a) The participation of developing country companies in ISO 14001 could be facilitated by providing simple, cheap and easily accessible support to firms, especially SMEs. Such support may include training, information and standard implementation facilitation;

(b) Developing country Governments could be assisted in providing the necessary infrastructure for ISO 14001, including credible accreditation and certification bodies;

(c) The recognition of developing country ISO 14001 certificates in developed countries could be promoted; and

(d) Demands for developing country suppliers' compliance with specific environmental targets of certified companies (the "trickle down" effect) should be sensitive to the environmental, economic and social conditions and preferences of the supplier country.

122. This report has provided a preliminary analysis of the possible trade impacts of emerging environmental policies. The Group may wish to recommend areas where empirical work could focus in order to further the understanding of these policies with respect to their trade, environment, and development effects. A preliminary analysis suggests that such work could usefully focus on sectoral studies. On the policy aspects, the Group could help to identify which of these policies should be analysed in the context of international trade rules and which could be better addressed at the national level, particularly in the context of development policies.

Endnotes

1. In previous reports the secretariat has described some of the main characteristics of "product policies" (e.g. TD/B/WG.6/5). In the Netherlands the primary objective of the Government's product-oriented environmental policy is "to bring about a situation whereby all market actors - producers, traders and consumers - are involved in an ongoing effort to reduce the impact that products have on the environment" (Report by the Council on Environmental Quality (previously the Council for Environmental Protection, CRMH), in Ministry of Housing, Spatial Planning and the Environment (VROM), Policy document on products and the environment, The Hague, the Netherlands, 1993).

2. It is to be noted that process-related environmental instruments, as long as they do not result in product differentiation, have only indirect effects on trade. Therefore, instruments such as tradable permits and liability, which are rarely used in the context of product-related environmental policies, have not been analysed in this report.

3. The EU Packaging and Packaging Waste Directive addresses the concern that 10 of the 15 member States (i.e. Austria, Belgium, Denmark, France, Germany, Italy, the Netherlands, Spain, Sweden and the United Kingdom) have implemented or proposed national programmes on packaging which are unique in structure and targets for recovery, reduction, recycling, and permitted means of packaging, as well as in the use of instruments to achieve the set targets, such as take-back obligations, taxes, deposit-refund schemes and labelling. See, M.A. Perrone, "Fitting the Environmental Piece into the Maastricht Puzzle", The Environmental Law Reporter, Vol. XXV, No.4, April 1995.

4. The trade and competitiveness effects of the Convention on the Transboundary Movement of Hazardous Wastes (the Basel Convention) are analysed in report TD/B/WG.6/10.

5. Aruoba C. et al., "Impact of Environmental Regulations and Standards in European and North American Markets on Turkish Exports. Report 1: Environment-Trade Link", second draft, study prepared under the joint UNCTAD/UNDP Project on Reconciliation of Environmental and Trade Policies, 1993.

6. The Directive requires that member States meet specific targets for recovery and recycling. Within five years after implementing the Directive, member States must recover 50 to 65 per cent by weight of the packaging waste and recycle 25 to 45 per cent by weight of all packaging materials contained in packaging waste with a minimum recycling of at least 15 per cent of each packaging material. The Directive allows member States considerable flexibility in implementing policies to achieve these targets. See Perrone, op. cit.

7. According to press reports, in 1994, 125,000 tons of plastics were recycled, while 255,000 tons were exported, of which 85,000 tons to China; "Faute de filières de recyclage, L'Allemagne ne sait plus quoi faire de ses emballages", Le Monde, 7 June 1995.

8. Responsibility for further examination of each substance listed is allocated to a member State. The competent national body must prepare a report on its findings and propose measures to limit the risks associated with the substance. Such proposals could include limitation of the production, marketing or use of the substance. It is up to the Commission to adopt the proposed measure or to propose other measures.

9. R. Frieder, C. Empacher, Inventory of product policy instruments: Case study European Union, Institut für Ökologische Wirtschaftsforschung GmbH, 1993, p.11 and p.19.

10. The London Guidelines on Prior Informed Consent (PIC) are aimed at better controlling exports of pesticides and hazardous substances to developing countries. International discussions are under way on whether the voluntary London Guidelines for the exchange of information on chemicals in international trade should be converted into a binding international agreement. FAO and UNEP are preparing a draft legally binding instrument on the operation of the PIC in order to make the presently voluntary, non-binding PIC procedure more effective. The conclusion of a PIC Convention is envisaged for 1997.

11. The National Appliances Energy Conservation Act of 1987 provides for energy efficiency standards and labelling (in most cases indicating the estimated annual energy costs) for 13 categories of major domestic appliances. The Department of Energy must periodically revise the standards. Any new or amended standard is required to be designed to achieve the maximum improvement in energy which is technologically feasible and economically justified.

12. The introduction of mandatory regulations regarding the energy efficiency of refrigerators and freezers is in preparation, prohibiting manufacturers and importers from marketing unapproved products. The Energy-Efficiency Domestic Refrigerators and Freezers Decree is one of the first product-oriented measures introduced on the basis of the Energy Efficiency Appliances Act. Standards for other appliances such as washing machines, dryers and fans are also under consideration. VROM, op.cit., p. 58.

13. The primary objective of the United States' Corporate Average Fuel Economy (CAFE) law is to achieve an average fuel efficiency over the whole annual output of individual automobile manufacturers. The law imposes penalties on each car of an entire fleet if manufacturers are on average under the legal target of 27.5 miles per gallon (mpg). For companies that import in addition to manufacturing domestically, the CAFE is calculated separately for the imported and domestically produced automobiles. In 1994, a GATT panel ruled that the CAFE measures were inconsistent with Article III for two reasons: (i) the separate foreign fleet accounting for foreign and domestic cars discriminated against above-limit foreign cars, because above-limit domestic cars could be averaged with below-limit domestic cars. This possibility was not available for above-limit foreign cars; (ii) the averaging procedures were deemed to be discriminatory because "the fleet average requirement based on the ownership or control relationship of the car manufacturer did not relate to cars as products. This requirement could thus result in treatment less favourable than accorded to like products". Sources: "Auto Panel Report", p. S-5, paragraph 5.55; A. Mattoo and A. Subramaniam, "Is the Grass Greener on the Auto Side? The GATT Auto Panel Report", Journal of World Trade (1995), forthcoming; and S. Charnovitz, "The GATT Panel Decision on Automobile Taxes", in International Environmental Reporter, November 1994, p. 921-925.

14. It has been argued that in the case of auto taxes "Congress intentionally selected the CAFE mechanism to protect the US auto industry jobs and the automobile market share of the Big Three US automakers". See D.C. Esty, "Greening the GATT", Trade, Environment and the Future, Institute of International Economics, Washington D.C., 1994.

15. The Montreal Protocol does not contain provisions controlling trade among parties, although it does restrict imports of products containing CFCs from non-parties (an analysis of such restrictions is outside the scope of this report).

16. Certain instruments have been adopted to encourage recapture and recycling. For example, in the United States the Environmental Protection Agency (EPA) has promulgated regulations with a view to reducing use and emissions of controlled substances and maximizing recapture and recycling. EPA requires removal of controlled substances from products prior to their disposal. Products containing those substances must be equipped with valves to facilitate recapture. Similarly,

under the Japanese eco-labelling programme EcoMark air-conditioners with CFC recovery systems are eligible for eco-labels. In Germany, industry has committed itself to taking back and reusing CFCs from used refrigerators and foamed insulation materials under a voluntary industry agreement.

17. In the Netherlands, a "CFC Action Programme" is almost entirely product-oriented. One element of the programme is a voluntary industry agreement, which was concluded in 1990 and anticipated the London Amendment to the Montreal Protocol. Under the agreement, the private industry committed itself to reduce the use of CFCs and halons, which should result inter alia in a total phasing out of the use of CFCs in refrigerators and freezers by the end of 1995.

18. These effects are analysed in more detail in TD/B/WG.6/10.

19. World Bank, Market Outlook for Major Primary Commodities, Washington, D.C., World Bank, 1992.

20. Recently Canada and Australia proposed to develop a specific set of ISO standards for forestry and forestry products in the framework of the ISO's work on Environmental Management Systems (see chapter III). The proposal has now been withdrawn.

21. According to the steering group of the CTH, the system should follow international developments and be consistent with the rules of the EU and the WTO. The system would also be linked as closely as possible to international developments in the context of harmonization, testing and certification. The system would consist of (1) a certification system for sustainable forest management based on bilateral or, preferably, international criteria and indicators; (2) a certification system for processing and transporting of timber; (3) a certification system in the importing country for the granting of a label. In order to facilitate the prompt implementation of the system, a phased approach has been proposed whereby sustainable production certificates could be awarded on the basis of bilateral agreements with producer countries. Stuurgroup convenant tropisch hout, Certificering van Duurzaam geproduceerd hout, April 1995.

22. CBI News Bulletin, June 1995, p.19.

23. See TD/B/41(1)/4, para. 34.

24. UNCTAD, Report of the Trade and Development Board of the first part of the forty-first session, TD/B/41(1)/4(Vol.II), p.165.

25. See, for example, UNCTAD, "Trends in the field of trade and environment in the framework of international cooperation", TD/B/40(1)/6, Geneva, 6 August 1993.

26. VROM, op. cit., p.29.

27. T. Lindhqvist, "Introductory statement to the discussion in working group I", in International Workshop on Product Oriented Environmental Policy, Workshop Proceedings, The Hague, the Netherlands, 30 September - 1 October 1993.

28. For example, Colombian exporters of coffee had started to use plastic instead of jute packaging for their exports to Germany. Later, the German Ministry of the Environment confirmed that recycling of jute was possible and that a market for recycled jute existed in Germany: recycled jute had been used in the car, building and furniture industries. Recently Colombian exporters have indeed used jute as packaging material. See D. Gaviria, R. Gómez, L. Ho, and A. Soto, Reconciliation of Trade and Environment Policies: The Case Study of

Colombia, report prepared under the joint UNCTAD/UNDP project on Reconciliation of Environmental and Trade Policies, 1994.

29. G. Elliot, "Trade implications of recycling of newsprint", paper prepared for the OECD workshop on Life-Cycle Management and Trade, 20-21 July 1993.

30. The law, specifying a tax of 10 Belgian francs per kilogramme of paper that does not comply with the recycled content requirement, has been approved but its implementation for paper products has been postponed until the end of 1995.

31. Indeed, if all the newsprint consumed in Canada were recovered and recycled, this would provide sufficient recycled fibre to provide perhaps seven per cent aggregate recycled content in Canadian newsprint production. G. Elliot, op. cit..

32. P. de Motta Veiga, M. Reis Castilho and Galeno Ferraz Filho, Relationships between Trade and the Environment: the Brazilian Case, study carried out under the joint UNCTAD/UNDP project on Reconciliation of Environmental and Trade Policies (INT/92/207), July 1995.

33. TD/B/41(1)/14 (Vol.II), p.117.

34. For example, for high-quality recycled newsprint, there are no inherent characteristics that make it different from paper produced from virgin fibre. Indeed, it is often impossible to determine from physical examination whether the product is virgin-fibre-based or recycled newsprint. Thus a recycled content standard could be described as a design standard rather than a performance based standard. See G. Elliot, op. cit.

35. The GATT Auto Panel ruled that the US gas guzzler tax on cars with a fuel efficiency of less than 22.5 miles per gallon (mpg) was consistent with WTO Article III.2 (first paragraph).

36. The GATT Auto Panel ruled that the exclusion of certain categories of vehicles from the application of the gas guzzler tax, including light trucks and sport utility vehicles, was consistent with the WTO.

37. A recent OECD report to the OECD council at ministerial level states that "in general, the practical feasibility, environmental benefits and potential risk for disguised protectionism associated with adjusting taxes on the basis of process inputs at the border are not clear and require further exploration". OECD, "Report on Trade and Environment to the OECD Council at Ministerial Level", OECD/GD(95)63, para. 76, Paris, 1995.

38. The Uruguay Round Agreement on Subsidies and Countervailing Measures (SCM) states that prior stage cumulative taxes may be exempted, remitted or deferred on exported products, if these taxes are levied on inputs that are consumed in the production of the exported products (see annex I, Illustrative list of export subsidies, paragraph (h)). A footnote in annex II on "Guidelines on Consumption of Inputs in the Production Process" to the 1994 Agreement on Subsidies and Countervailing Measures states that "inputs consumed in the production process are inputs physically incorporated, *energy, fuels and oils* used in the production process and catalysts which are consumed in the course of their use to obtain the exported product" (emphasis added). However, this footnote seems to be the subject of a "gentleman's agreement" by which the reference to taxes on energy was solely to the benefit of a limited number of countries and would not be used by other countries, at least with respect to carbon taxes. Furthermore, the provisions of the SCM Agreement need not necessarily apply in the same way in the context of border tax adjustment. See P. Demaret and R. Stewardson, "Border tax adjustments under GATT and EC law and general implications for environmental taxes", Journal of World Trade, Vol. 28, No. 4, August 1994.

39. TD/B/WG.6/2 and TD/B/WG.6/5.

40. See TD/B/WG.6/2, Box 1.

41. Voluntary agreements could be divided into: (i) legally binding agreements, which can be enforced by law; and (ii) self-commitments through a declaration of intent, a gentlemen's agreement, a memorandum of understanding, or the like, compliance with which usually cannot be enforced. See: F. Oosterhuis, F. Rubik F, Y. van Scheppingen, G. Scholl G. and U. Petschow, Inventory of product policy instruments: Method, overview and conclusions, Institut für Ökologische Wirtschaftsforschung GmbH, 1994.

42. In the Netherlands, while authorities still prefer to use laws and regulations to exercise control, covenants are used to speed up environmental improvements when legislation is pending, if there are too many uncertainties regarding the content of the legislation to be drafted, if Government intervention is needed only temporarily, or if covenants are likely to be less costly in terms of implementation and enforcement. Some 26 covenants have been signed between the Government and industry. OECD, Environmental Performance Reviews: Netherlands, 1995, p. 130-131.

43. For an analysis of voluntary industry agreements and other policy regimes for phaseout of ODS, see: UNEP, Montreal Protocol on Substances that deplete the ozone layer. 1994 Report of the Economics Options Committee. 1995 Assessment, chapter IV.

44. In the Netherlands, covenants started essentially as gentlemen's agreements whose status and degree of enforceability were highly uncertain. Now they are usually standardised and formalised with regard to both procedure and content. The legal status of a covenant is generally that of an agreement under private law. If need be, the authorities can turn to the civil court for enforcement. OECD, op.cit., p. 131.

45. See European Bank for Reconstruction and Development Environmental Standards and Legislation in Western and Eastern Europe: Towards Harmonization, report prepared by Environmental Resources Management, London, 1993, p.143.

46. J. Biekart, "Environmental covenants between Government and industry. A Dutch NGO's experience", RECIEL, Volume 4, Number 2, 1995, p. 141-148.

47. H. Verbruggen and S. Jongma, "Environmental and trade policies in the Netherlands and the European Communities", in Trade and Environment, the International Debate, SELA and UNCTAD, 1995.

48. Tom Kenworthy, "Industry Seeks to Weaken Clinton's Recycling Plan", Washington Post, 29 July 1993, p. A3.

49. N. Johnson and B. Cabarle, Surviving the Cut: Natural Forest Management in Humid Tropics, Washington, D.C., 1993.

50. ISO 14000 consists of a series of environmental standards covering different areas: (1) EMS; (2) Environmental Audits; (3) Environmental Performance Evaluation; (4) Environmental Labelling and Claims; and (5) Environmental Life Cycle Assessment. The key players in the development of the ISO 14001 standards have been the European Union member countries, the United States, Canada, Japan, the Republic of Korea, Australia, New Zealand and South Africa.

51. The EMAS was established by the "Council Regulation allowing voluntary participation by companies in the industrial sector in a Community eco-management and audit scheme" (Council Regulation (EEC) No 1836/93) that was adopted in 1993

and applies from April 1995. Companies that comply with EMAS requirements may use a statement of participation to publicise their involvement in the scheme and their names will be published annually in the Official Journal of the European Union.

52. However, if CEN (Centre européen de normalisation) adopts ISO or other standards as CEN standards, the national EMS documents will have to be withdrawn.

53. If ISO 14001, 14010, 14011, and 14012 are agreed as full ISO standards and if they are approved by CEN members and meet EMAS requirements, a single worldwide standard which allows companies using them to meet EMAS needs will exist.

54. More specifically, to companies in selected sections of the NACE classification of economic activities in the EU (mining and quarrying, manufacturing, and electricity, gas and water supply).

55. The ISO 14001 standard requires an organization to prepare "procedures related to the environmental aspects of goods and services used by the organisation, to enable the organisation to achieve the objectives of its environmental policy, including communication of relevant procedures and requirements to suppliers and contractors" (para 4.3.6.C). The EMAS Regulation requires that within the framework of the environmental policy and programmes and of environmental audits, inter alia, the "environmental performance and practices of contractors, subcontractors and suppliers" shall be addressed (EMAS Regulation, Annex I, C.8). Further, procedures dealing with procurement and contracted activities have to be established "to ensure that suppliers and those acting on the company's behalf comply with the company's environmental policy as it relates to them" (EMAS Regulation, Annex I, B.4.b).

56. Juan Xiberta, "The Eco-Management and Audit Scheme", European Environmental Law Review, March 1994, p.85-89

57. By the end of June 1994, i.e. seven years after the publication of the standards, more than 70,000 ISO 9000 certificates had been issued in around 80 countries. Approximately 50 per cent of all ISO certificates had been issued in the United Kingdom, 26 per cent in the other European countries, 7 per cent in North America, 6.6 per cent in Australia and New Zealand, 4.5 per cent in the Far East and 3.5 per cent in the rest of the world. Within developing countries and territories, the highest numbers of certificates had been issued in Brazil (384), Mexico (85); India (328); Hong Kong (336); Malaysia (258); Singapore (662); Republic of Korea (226); Taiwan, Province of China (337); China (150). ISO 9000 News, Vol. 4, No. 1, January/February 1995.

58. R. Luken, O. Maizza-Neto, L. Aumann, "Environmental management systems and eco-labelling: potential adverse effects on the trade of developing countries", paper presented to the ISO/CASCO Workshop on Conformity Assessment for Environmental Management, Geneva, 19-20 June 1995.

59. Compliance with domestic environmental legislation in developing countries is made difficult by the fact that in many instances, such legislation has been adopted based on developed country regulations and has not been modified to take into account the circumstances of the country.

60. As a general rule, a firm will require specific environmental performance from its suppliers only as far as the supplier's performance is likely to have an impact on the firm's ability to comply with its stated targets and goals. For example, if the stated target of a certified firm is waste reduction, the firm may ask its suppliers to switch to more environmentally friendly packaging.

61. A recent report to the OECD Council at ministerial level recommends OECD Governments to take a number of steps to avoid unnecessary trade impacts on foreign exporters, arising from the application of life-cycle analysis. OECD, 1995, op.cit., para. 71.

62. For example, the TBT Agreement requires WTO members to ensure that mandatory technical regulations "not be more trade restrictive than necessary to fulfil a legitimate objective, taking account of the risks non-fulfilment would create". Voluntary standards would not be subject to such requirement. In addition, while the TBT provisions on Dispute Settlement apply to both mandatory and voluntary standards, on a practical level formal consultations and dispute settlement procedures may be more likely to be followed in cases involving mandatory standards. See Perrone, op.cit.